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EXAMINER

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



## **DETAILED ACTION**

### ***Status of Claims***

1. Claims 8-11 and 25 are amended in view of applicant's amendment filed 22 June 2009. Claims 1-7 and 12-23 are canceled. New claims 26-27 are added. Therefore, claims 8-11 and 24-27 are currently under examination.

### ***Status of Previous Rejections***

2. The rejection of claims 20-23 under 35 U.S.C. 112, first paragraph, is withdrawn in view of the cancellation of claims 20-23.

3. The rejection of claims 8-11 and 20-25 under 35 U.S.C. 103(a) as being unpatentable over Geke et al. US 2002/0011281 A1(Geke) is withdrawn in view of applicant's new claim amendment filed 22 June 2009.

4. The declaration under 37 CFR 1.132 filed 22 June 2009 is sufficient to overcome the rejection of claims 8-11, 20 and 24-25 based upon Esler (US 3,798,074) in view of "Metals Handbook Desk Edition" p 1157-1158.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 8-11 and 24-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boulos et al. US 5,728,235(Boulos) and further in view of Collier et al. US 4,881,975(Collier).

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Boulos teaches a process of treating metal surfaces such as steel surfaces with a conversion coating solution comprising manganese ions (abstract, col. 4 lines 58-62) and phosphoric acid (col. 5 lines 22-43). Boulos's coating solution may additionally comprises potassium hydroxide (i.e. potassium ions) (col. 8 lines 57-61) and the addition of fluoride is optional (col. 8 lines 3-29).

Regarding claims 8 and 26-27, Boulos further teaches that its coating solution has a total acid value range of 15.9-50 and a free acid value range of -0.50-1.5 (col. 6 lines 13-34). Therefore, the total acid number and the inherent ratio of total acid number to free acid number in the coating solution of Boulos overlap the claimed total acid number and the claimed total acid to free acid ratio. Therefore, a prima facie case of obviousness exists. See MPEP 2144.05. The selection of claimed total acid and total/free acid ratio ranges from the disclosed ranges of Boulos would have been obvious to one skilled in the art since Boulos teaches the same utilities in its' disclosed total acid and total/free acid ratio range.

In addition, even though Boulos does not explicitly teach that the steel material containing 0.5-13% Cr as claimed, one of ordinary skill in the art would have found it obvious to have applied the process of Boulos to the claimed Cr containing steel surface with expected success since claimed Cr containing steel surface is also a steel material which would have been suitable for the process of Boulos in light of the teachings of Boulos.

However, Boulos does not explicitly teach that the treated steel surface is an oil well pipe.

Collier teaches applying phosphate coating to a metal substrate wherein the metal substrate is an oil pipe(col. 7 lines 1-10, col. 8 lines 22-24).

In light of Collier's teaching, one of ordinary skill in the art would have found it obvious to have applied the process of Boulos to a steel material of any shape including the claimed oil pipe with expected success. In addition, change in size, shape, or sequence of adding ingredients is prima facie obvious in the absence of new or unexpected results (see MPEP 2144.04).

Regarding claim 9, Boulos further teaches that the coating bath may further contain potassium hydroxide(i.e. potassium ions) for the adjustment of free and total acid content(col. 8 lines 57-51). Therefore, it would have been obvious to one of ordinary skill in the art to have varied the amount of potassium hydroxide (i.e. potassium ions) in the coating solution of Boulos via routine optimization in order to achieve desired free acid and total acid content.

Regarding claims 10-11, Boulos further teaches that the coating solution can be applied by immersion for a period of 5-15 minutes at a temperature of 55-75°C (col. 9 lines 16-53). The coating temperature as taught by Boulos overlaps the claimed coating temperature of 60-100°C. Therefore, a prima facie case of obviousness exists. See MPEP 2144.05. The selection of claimed coating temperature range from the disclosed range of Boulos would have been obvious to one skilled in the art since Boulos teaches the same utilities in its' disclosed coating temperature range.

Regarding claim 24, Boulos further teaches that the coating step is followed by a rinsing treatment with water(col. 10 Table 1.2) and the claimed drying treatment

inherently takes place in the coating process of Boulos since leaving the treated steel as taught by Boulos to dry naturally reads on the claimed drying step.

Regarding claim 25, the process of Boulos forms a conversion film on the surface of steel via a chemical reaction as claimed.

### ***Response to Arguments***

7. Applicant's arguments filed 22 June 2009 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LOIS ZHENG whose telephone number is (571)272-1248. The examiner can normally be reached on 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roy King/  
Supervisory Patent Examiner, Art  
Unit 1793

LLZ